

Civilian Radioactive Waste Management

Civilian Radioactive Waste Management

Energy Supply Research & Development

Office of Civilian Radioactive Waste Management (OCRWM)

Overview

Appropriation Summary by Program

(dollars in thousands)

	FY 2003 Comparable Appropriation	FY 2004 Original Appropriation	FY 2004 Adjustments	FY 2004 Comparable Appropriation	FY 2005 Request
Energy Supply	4,962	5,061	0	5,061	5,223
Total, Energy Supply	4,962	5,061	0	5,061	5,223

Preface

OCRWM will assume responsibility for the transportation of domestic and university research reactor spent nuclear fuel from NRC-licensed university reactors and from DOE's HFIR, and management and operations of two NRC-licensed, Department-owned independent spent fuel storage installations in FY 2005. One ISFSI, the Ft. St. Vrain facility, is located in Eagle County, Colorado, and stores commercial SNF from the shutdown Ft. St. Vrain high-temperature gas reactor. The second ISFSI is located on the Idaho National Environmental and Engineering Laboratory at the Idaho Nuclear Technology Engineering Center. This ISFSI stores SNF from the damaged TMI-2 reactor. Management of this activity will be transferred from the Office of Environmental Management. Funding for this activity includes management and operation of the ISFSIs and annual NRC license fees.

Within the Energy Supply Research and Development, OCRWM has only one program: Civilian Radioactive Waste Management.

This Overview will describe Strategic Context, Mission, Benefits, Strategic Goals, and Funding by General Goal. These items together put the appropriation in perspective. The Annual Performance Results and Targets, Means and Strategies, and Validation and Verification sections address how the goals will be achieved and how performance will be measured. Finally, this Overview will address Program Assessment Rating Tool (PART), and Significant Program Shifts.

Strategic Context

Following publication of the Administration's National Energy Policy, the Department developed a Strategic Plan that defines its mission, four strategic goals for accomplishing that mission, and seven general goals to support the strategic goals. Each appropriation has developed quantifiable goals to support the general goals. Thus, the "goal cascade" is the following:

Department Mission — Strategic Goal (25 yrs) — General Goal (10-15 yrs) — Program Goal (GPRA Unit) (10-15 yrs)

To provide a concrete link between budget, performance, and reporting, the Department developed a “GPRA unit” concept. Within DOE, a GPRA Unit defines a major activity or group of activities that support the core mission and aligns resources with specific goals. Each GPRA Unit has completed or will complete a Program Assessment Rating Tool (PART). A unique program goal was developed for each GPRA unit. A numbering scheme has been established for tracking performance and reporting.

The goal cascade accomplishes two things: First, it ties major activities for each program to successive goals and, ultimately, to DOE’s mission. This helps ensure the Department focuses its resources on fulfilling its mission. Second, the cascade allows DOE to track progress against quantifiable goals and to tie resources to each goal at any level in the cascade. Thus, the cascade facilitates the integration of budget and performance information in support of the GPRA and the President’s Management Agenda (PMA).

Mission

The current mission of the Office of Civilian Radioactive Waste Management (OCRWM) is to manage and dispose of high-level radioactive waste and spent nuclear fuel in a manner that protects health, safety, and the environment; enhances national and energy security; and merits public confidence. In FY 2005, OCRWM’s mission will be expanded to address certain SNF management and transportation responsibilities. The ultimate disposition of all SNF is geologic disposal in a repository.

Benefits

Spent nuclear fuel (SNF) and high-level radioactive waste (HLW) have accumulated in the United States during the last half-century from nuclear weapon production, nuclear-powered naval vessels usage, DOE test reactors, research reactors, and electricity generation. The United States has evaluated methods for the safe storage and disposal of SNF and HLW for more than 40 years. After analyzing a range of options, disposal in mined geologic repositories emerged as the preferred long-term environmental solution for the management of SNF and HLW. Congress assigned responsibility to the DOE to: site, apply for a license, construct, operate, and close a repository for the disposal of SNF and HLW. In addition, the Nuclear Waste Policy Act (NWPA) assigned responsibility to the generators and owners of SNF and HLW to pay the costs of disposal of such radioactive materials.

OCRWM’s current mission is to “manage and dispose of high-level radioactive waste and spent nuclear fuel in a manner that protects health, safety, and the environment; enhances national and energy security; and merits public confidence.” With site designation, OCRWM has initiated the next phase of repository development; namely, licensing in accordance with applicable U.S. Nuclear Regulatory Commission (NRC) regulations and authority and funding in accordance with DOE and Office of Management and Budget requirements and regulations. OCRWM, with the support of its management and operating contractor (M&O), is preparing a License Application for submittal to the Nuclear Regulatory Commission (NRC) in December 2004.

Strategic Goals

The Department's Strategic Plan identifies four strategic goals (one each for defense, energy, science, and environmental aspects of the mission plus seven general goals that tie to the strategic goals. The five Environmental Management appropriations (Defense Site Acceleration Completion, Non-Defense Environmental Services, Uranium Enrichment Decontamination & Decommissioning Fund, Nuclear Waste Disposal, and Defense Nuclear Waste Disposal appropriations support the following goals:

Environment Strategic Goal: To protect the environment by providing a responsible resolution to the environmental legacy of the Cold War and by providing for the permanent disposal of the Nation's high-level radioactive waste.

General Goal 7, Nuclear Waste: License and construct a permanent repository for nuclear waste at Yucca Mountain and begin acceptance of waste by 2010.

The program funded within the Energy Supply Research and Development appropriation has one Program Goal that contributes to the General Goal in the "goal cascade". This goal is General Goal 7, Nuclear Waste.

Program Goal 7.25.00.0, Planned Annual Operational Rate: The Yucca Mountain repository is licensed, constructed, and operating; the national and Nevada waste transportation systems are in place; activities required to support receipt and emplacement of spent nuclear fuel (SNF) and high-level radioactive waste (HLW) at the repository are proceeding on schedule.

Contribution to General Goal

Within the Civilian Radioactive Waste Management Program, the Yucca Mountain Sub-Program contributes to General Goal 7 by preparing and submitting the license application to NRC by 2004 for a repository construction authorization by 2008 and subsequently constructing and operating the repository by 2010. The Transportation Sub-Program contributes to General Goal 7 by developing the transportation network, equipment, and facilities that are required for shipment of waste to the repository by 2010.

Funding by General Goal

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
General Goal 7, Energy Supply Research and Development					
Program Goal 7.25.00.0, Planned Annual Operational Rate	4,962	5,061	5,223	+162	+3.2%
Subtotal, General Goal 4					
Total, General Goal 7 (Energy Supply Research and Development)	4,962	5,061	5,223	+162	+3.2%

Means and Strategies

During FY 2005, the Civilian Radioactive Waste Management Program will focus its activities on work relating to repository licensing and design, especially repository license defense; and planning and acquisition of the required transportation network, equipment, and facilities to support waste acceptance at the repository. Memoranda of Agreement (MOA) have been negotiated between OCRWM and the Naval Nuclear Propulsion Program and between OCRWM and the Department's Office of Environmental Management. The Program also collaborates with several other nations to address common technical issues associated with radioactive waste management and disposal.

Validation and Verification

The Program's activities are subject to continuing review by the Congress, the General Accounting Office, the Department's Inspector General, the Nuclear Regulatory Commission, the Environmental Protection Agency, the Nuclear Waste Technical Review Board, and the Department's Office of Engineering and Construction Management. The latter performs external independent reviews and independent cost estimates prior to critical decisions. In addition, the Program Director reviews the progress and schedule and cost performance of the Yucca Mountain and Transportation Sub-Programs on a quarterly basis. The Yucca Mountain Sub-Program Manager conducts similar reviews monthly. The quality of the Program's work is subject to a Nuclear Regulatory Commission-approved quality assurance program. The Program's financial statements are audited annually by an independent public accounting firm. The Program has received an unqualified ("clean") auditors' opinion every year since inception. Finally, the Program conducts an annual internal controls review under the Federal Managers' Financial Integrity Act. The Program's performance measures and associated quarterly milestones are reviewed and approved by the OCRWM Director and then entered into and tracked in the Department's performance measurement database. Final performance results are audited and reported both in OCRWM's Annual Report to the Congress and the Department's Performance and Accountability Report.

Program Assessment Rating Tool (PART)

The Department implemented a tool to evaluate selected programs. PART was developed by the Office of Management and Budget (OMB) to provide a standardized way to assess the effectiveness of the Federal Government's portfolio of programs. The structural framework of the PART provides a means through which programs can assess their activities differently than through traditional reviews.

The first PART review of OCRWM's Yucca Mountain Project resulted in the assignment of an "adequate" rating by OMB based on an overall score of 50. In many instances, the Yucca Mountain Project isn't at a stage where it can be effectively evaluated as a mature project. After last year's site designation, the project is transitioning from a site recommendation to a design, licensing, and construction project. A score of 100 was awarded in the "Project Purpose and Design" section. "Strategic Planning" and "Program Management" were scored 67 and 75, respectively. The score of 16 in the "Project Results" section reflects OMB's position that the Project lacks an adequate performance baseline, that its "Earned Value Management System" (EVMS) has not been certified, and that its "Capital Asset Management Plan," incorporating an acquisition strategy had not been finalized. The performance baseline and certification of EVMS is required by DOE Order 413.3 at the time of Critical

Decision 2 scheduled for September 2005. There had been consideration for an earlier start, but it was determined there would be a detrimental impact to the confidence in achieving the completion of the License Application submission. The project has a performance measurement baseline in place and performance data is being collected and reported using an earned value management system, which has been in place since 1991. Development of the Capital Asset Management Plan was in process at the time the PART was completed; and an update of a final draft was completed in November 2003.

Significant Program Shifts

In FY 2005, the Office of Civilian Radioactive Waste Management will assume responsibility for the oversight of or provide funding assistance for the transportation of domestic and university research reactor spent nuclear fuel from NRC-licensed university reactors and from DOE's High Flux Isotope Reactor (HFIR). Management of this activity will be transferred from the Office of Nuclear Energy, Science and Technology. Universities would pay the costs of DOE shipments from reactor sites to a Department-managed storage site. HFIR shipments will be funded by the HFIR operating budget.

Also in FY 2005, OCRWM will assume responsibility for the management and operations of two NRC-licensed, Department-owned independent spent fuel storage installations (ISFSI). The Ft. St. Vrain facility is located in Colorado and stores commercial SNF from the shutdown Ft. St. Vrain high-temperature gas reactor. The TMI-2 ISFSI is located at the Idaho National Environmental and Engineering Laboratory. This ISFSI stores SNF from the damaged TMI-2 reactor. Management of this activity will be transferred from the Office of Environmental Management. Funding for this activity includes management and operation of the ISFSIs and annual NRC license fees.

These functions being transferred to OCRWM in FY 2005 will be managed by the newly formed Office of DOE Spent Fuel Management, which will report to the OCRWM Director. This Office has responsibility for the management and integration of DOE spent fuel activities across the DOE complex as well as spent fuels from civilian domestic and foreign research reactors.

Office of Civilian Radioactive Waste Management

Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Energy Supply Research and Development					
Spent Nuclear Fuel Storage Responsibilities	4,762	4,861	5,023	+162	+3.3%
Domestic Research Reactor Spent Nuclear Fuel Transportation	200	200	200	0	0.0%
Total, Energy Supply Research and Development	4,962	5,061	5,223	+162	+3.2%

Description

The Office of Environmental Management (EM) and OCRWM have agreed to realign the responsibility for specific SNF storage responsibilities at the Idaho National Engineering and Environmental Laboratory from EM to RW. In addition, the Office of Nuclear Energy (NE) and OCRWM have agreed to consolidate specific functions related to planning and transportation of domestic research reactor spent nuclear fuel at certain NRC-licensed university research reactors and domestic HFIR research reactors within OCRWM.

Benefits

These responsibilities will maintain the safe transportation and interim storage, and proper resolution of DOE spent nuclear fuel that will ultimately be disposed of in a geologic repository.

Detailed Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005
---------	---------	---------

Spent Nuclear Fuel Storage Responsibilities 4,762 4,861 5,023

- The Office of Environmental Management (EM) and RW have agreed to realign the responsibility for specific SNF storage responsibilities of the Idaho National Engineering and Environmental Laboratory from EM to RW. Program responsibility for the management of the NRC-licensed Ft. St. Vrain Independent Spent Fuel Storage Installation (ISFSI) located in Colorado, and the NRC-licensed Three Mile Island–2 ISFSI located at the Idaho Nuclear Technology Engineering Center (INTEC) will be realigned from EM to RW because the spent nuclear fuel storage at these facilities originated at commercial reactors and is planned for disposal by RW pending availability of the geologic repository at Yucca Mountain. RW will be required to meet the NRC license conditions during interim storage, for ensuring these SNF forms are analyzed within the repository performance criteria, and for the eventual transportation related activities.

Domestic Research Reactor Spent Nuclear Fuel

Transportation 200 200 200

- The Office of Nuclear Energy (NE) and RW have agreed to consolidate specific functions related to planning, oversight, and/or funding assistance for the transportation of domestic and university research reactor spent nuclear fuel at certain NRC-licensed university research reactors and DOE’s High Flux Isotope research reactor within RW. Responsibility for University Reactor Infrastructure and Education Assistance will move from NE to RW. The ownership of the BMI transportation cask for university shipments will realign to RW. Transferring responsibility – including planning, coordination, receipt and transportation, allows for consistent planning and policy for the transportation of domestic research reactor SNF.

Universities are responsible for the costs of transportation from their NRC-licensed reactors to a DOE storage site. The Office of Science would pay the costs for shipments of HFIR SNF to a DOE storage site. This change does not affect the storage and future packaging of SNF at Department-managed storage basins. The SNF is planned for ultimate disposal at the geologic repository at Yucca Mountain.

Total, Energy Supply Research and Development 4,962 5,061 5,223

Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)

Spent Nuclear Fuel Storage Responsibilities

The increase in funding is due to the Office of Environmental Management (EM) and OCRWM agreeing to realign the responsibility for the management of NRC-licensed independent spent fuel storage installations (ISFSIs) for TMI-2 SNF at the Idaho National Environmental and Engineering Laboratory and for spent fuel at the Ft. St. Vrain ISFSI in Colorado. These ISFSIs store commercial-origin non-legacy spent nuclear fuel.

+162

Total Funding Change, Energy Supply Research and Development

+162
